

CLAIMS

1. A polymeric matrix which can be implanted into the body, vascularized and used as a means to achieve a high survival rate for dissociated cells injected into the matrix, wherein the matrix is formed of a biodegradable, biocompatible, synthetic polymer, having a porosity between 50 to 95% and a median pore size between 100 and 300.
2. The matrix of claim 1, wherein the pore size is between approximately 150 and 250 microns and the porosity is between 75 and 95% and allows vascular ingrowth and the introduction of cells into the matrix without damage to the cells or patient.
3. The matrix of claim 1, wherein the biodegradable polymer is selected from the group consisting of polyanhydrides, polyorthoesters, polyglycolic acid, polylactic acid, copolymers and blends thereof.
4. The matrix of claim 1, further comprising a wetting agent.
5. The matrix of claim 1, wherein the polymer is an amorphous polymer.
6. The matrix of claim 1, wherein the polymer is a semicrystalline polymer.
7. The matrix of claim 1, further comprising means for introducing the cells into the matrix after implantation.
8. The matrix of claim 1, wherein the polymer is amorphous polylactic acid having 90% porosity and 200 micron median pore diameter.
9. The matrix of claim 1, further comprising cells selected from the group consisting of hepatocytes, pancreatic islet cells, fibroblasts, chondrocytes, osteoblasts, exocrine cells, cells of intestinal origin, bile duct cells, parathyroid cells, thyroid cells, cells of the adrenal-hypothalamic-pituitary axis, heart muscle cells, kidney epithelial cells, kidney tubular cells, kidney basement membrane cells, nerve cells, blood vessel cells, cells forming bone and cartilage, and smooth and skeletal muscle cells.
10. The matrix of claim 1, further comprising a material enhancing cell attachment to the polymer, wherein the material overlays the polymer.